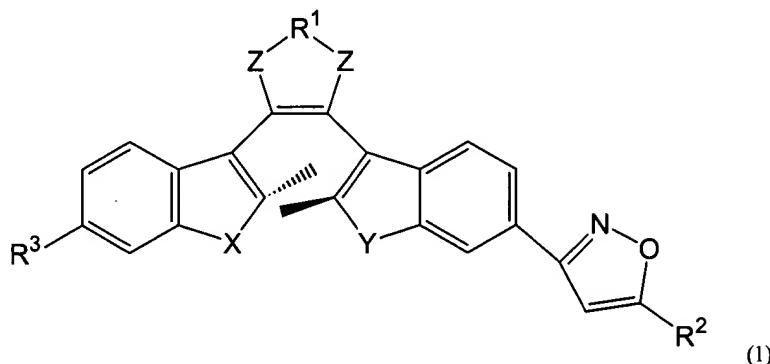


IN THE CLAIMS

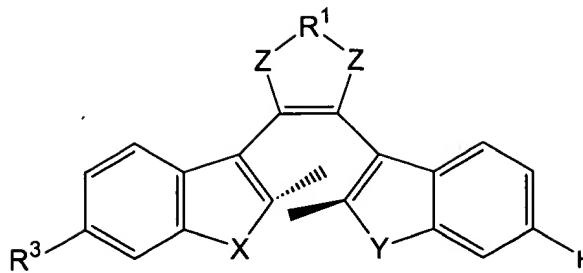
1. (CURRENTLY AMENDED) A photochromic diarylethene compound having isoxazole group expressed in the following formula (1),



wherein R<sup>1</sup> is a direct bond, O, or C<sub>1</sub>-C<sub>3</sub> alkylene optionally substituted with fluoro; R<sup>2</sup> is a hydrogen atom, (CR<sup>4</sup>H)<sub>n</sub>OH or C<sub>6</sub>(R<sup>5</sup>)<sub>m</sub>H<sub>1</sub>; R<sup>3</sup> is selected from the group consisting of a hydrogen atom, phenylisoxazole, hydroxymethylisoxazole, acetyl, hydroxy, and phenyl; R<sup>4</sup> is hydrogen or C<sub>1</sub>-C<sub>10</sub> alkyl; R<sup>5</sup> is chloro, nitro, bromo, or the same as R<sup>4</sup>; X and Y are independently O, N, or S; Z is methylene optionally substituted with fluoro or carbonyl; and n, m and l are an integer of 1 to 5.

2. (CURRENTLY AMENDED) A method for preparing the diarylethene compound of claim 1, comprising the steps:

- (I) formylating diarylethene compound of formula (2);
- (ii) reacting the formylated compound with NH<sub>2</sub>OH · HCl and aqueous basic solution in series and reacting with N-chlorosuccinimide (NCS); and
- (iii) reacting with acetylene compound substituted with R<sup>2</sup> in the presence of base catalyst,



(2)

wherein R<sup>1</sup> is a direct bond, O or C<sub>1</sub>-C<sub>6</sub> alkylene optionally substituted with fluoro; R<sup>3</sup> is selected from the group consisting of a hydrogen atom, phenylisoxazole, hydroxymethylisoxazole, acetyl, hydroxy, and phenyl; X and Y are independently O, N, or S; and Z is methylene optionally substituted with a fluoro atom or carbonyl.

- 3. (WITHDRAWN)
- 4. (WITHDRAWN)
- 5. (WITHDRAWN)
- 6. (WITHDRAWN)
- 7. (WITHDRAWN)
- 8. (WITHDRAWN)
- 9. (WITHDRAWN)
- 10. (WITHDRAWN)

11. (NEW) A compound selected from the group consisting of 1-(6'-(5-hydroxymethylisoxazol)-2'-methylbenzo[b]thiophen-3'-yl)-2-(2"-methylbenzo[b]thiophen-3'-yl)hexafluorocyclopentene, 1-(6'-(5-phenylisoxazol)-2'-methylbenzo[b]thiophen-3'-yl)-2-(2"-methylbenzo[b]thiophen-3'-yl)hexafluorocyclopentene, and di(6'-phenylisoxazol-2'-methylbenzo[b]thiophen-3'-yl)hexafluorocyclopentene.